

New Effective Mosquito Repellents Less Greasy, Odor Free

Barb Ogg
Extension Educator

According to a recent survey from Harvard University of Public Health, 45 percent of U.S. adults reported they did not take any precautions to prevent mosquito bites last summer. One reason might be because people don't like the greasy feel and smell of DEET (diethyl toluamide) repellents. Fortunately, you now have choices — picaridin is a new insect repellent that is comparable in effectiveness to DEET products, but is odorless, not irritating and doesn't damage plastics or synthetic materials.

Another option is oil of lemon eucalyptus, a plant-based mosquito repellent. It is effective for only a couple hours, similar to low concentrations of DEET products. Oil of lemon eucalyptus is available in a variety of formulations throughout the U.S.

Picaridin-based repellents have been available in Europe, Australia, Latin America and Asia for some time, but is now

available in the U.S. and sold under the name of Cutter Advanced™ Insect Repellent. In addition to mosquitoes, picaridin was tested in lab and field studies and found to be effective against biting flies and ticks.

Picaridin works in a similar way to DEET by blocking the insect's ability to locate you.

Consumer Reports compared Cutter Advanced™ (7% picaridin) with Cutter Unscented (10% DEET) against aggressive (*Aedes* spp) and less aggressive (*Culex* spp) mosquitoes. They found both repellents prevented bites for about two to three hours with the aggressive species, eight hours for less aggressive species.

The Centers for Disease Control and Prevention (CDC) has three mosquito repellents on its recommended list of effective products: deet, picaridin and oil of lemon eucalyptus.



Summer brings mosquitoes and the risk of West Nile Virus (WNV) and other infections spread by mosquitoes. Using repellents is especially important for people over 50 because they are more likely to become seriously ill if infected with WNV. Severe symptoms can include high

fever, disorientation, convulsions, muscle weakness, vision loss, paralysis, coma and, in rare instances, death. In 2003, 26 Nebraskans died from WNV. Twenty four of the deaths were people 65 years old or older.

To prevent mosquito bites, you should use repellent anytime you go outside, especially during prime mosquito biting hours, between dusk and dawn. Read and follow the label instructions, and re-apply repellent if mosquitoes start biting you.

Use of commercial and trade names does not imply approval or constitute endorsement by UNL Extension.

Control Mosquito Populations

Reducing mosquito populations in your area can help restrain the threat of West Nile Virus.

Mosquitoes breed in standing water and their eggs must be in water to hatch. Breeding sites include wading pools, bird baths, leaf-clogged gutters, low areas in yards and alleys, potted plants, poorly drained curbs leading to storm sewers, old tires or any other containers that will hold water. Make sure these areas do not have standing water for long periods of time to reduce the area mosquito population. Farmers should check irrigation re-use pits and areas where drainage from irrigation or heavy rains drain to roadside ditches.

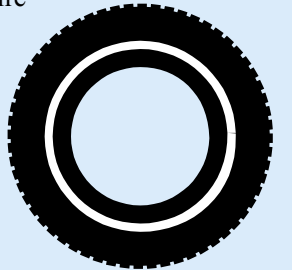
Insecticides can be used as residual sprays for mosquitoes that rest in shrubs, flowers and trees. There are insecticide treatments for immature mosquitoes in the aquatic habitat. These can be applied as granules, pellets, briquettes or sprays.

Source: Dave Keith, UNL Urban Integrated Pest Management Specialist.

Scrap Tire Collection Sept. 24 & 25

Individuals will have an opportunity to get rid of scrap tires that may have accumulated around your place. Tires (without the wheels) will be accepted Sept. 24 & 25 from 9 a.m. to 9 p.m. at the Shoemakers Truck Stop, 48th and West O Street, Lincoln. Please have a count of the number of tires you are dropping off. Sorry, this opportunity is open to individuals only — the grant specially prohibits tire dealers.

This program is funded through a grant from the Nebraska Department of Environmental Quality and hosted by the Emerald Sanitary Improvement District Number 6. For more information, call 476-3590.



Using Natural Enemies to Control Pests

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Integrated Pest Management helps you manage pests with fewer risks to people, animals and the environment. And if you choose an IPM approach, you'll most likely spend less money controlling pests. How do you do that? You use knowledge and common sense BEFORE reaching for the nearest "bug spray."

One IPM approach is using biological controls. Biological control is the process of using natural enemies to control specific pests.

There are several ways to take advantage of natural predators. The most practical strategy is through conservation. You encourage the natural predators in your yard so they can help you control pests.

How do you start?

- Learn how to recognize help-

ful insects and spiders. Don't confuse the good with the bad. Most people recognize lady bugs and identify them as "good bugs." However, not many people know what the larva stage looks like and spray them thinking they are a pest. All stages of lady beetles (bugs) are important in helping control aphid pests.

- Stop and think before choosing insecticides — most are toxic to pests AND predators. When you use insecticides, you injure or kill the natural enemies of pests and actually increase the survival of the remaining insect pests.
- If you need to use an insecticide, read the label and choose one that is selective for the pest you want to control.
- Add different types of plants to your yard and garden. Trees, shrubs, flowers — a variety of plants attract a host of beneficial predators includ-

ing wasp, birds, lacewings and so many more.

You may already be using an Integrated Pest Management approach in your yard and not even know it!

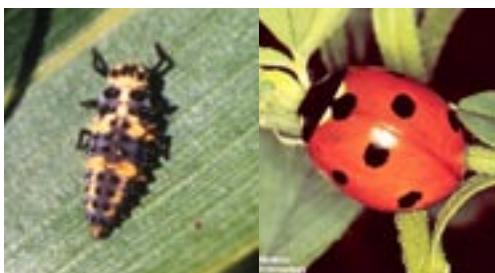
- Do you plant trees and shrubs that attract wildlife, provide water for birds or put up bird houses to encourage nesting?
- Did you walk around the wolf spider in the garden instead of killing it with insecticide?

These are just two simple, inexpensive examples of how we can encourage and protect predators which in turn, help us by feeding on insect pests.

FOR MORE INFORMATION

NebGuide G95-1251-A "Biological Control of Insect and Mite Pests" available at the extension office or online at <http://ianrpubs.unl.edu/insects/g1251.htm>

Some Beneficial Predators



Lady beetle (larva stage at left, adult at right)

(Right)
Wolf spider



Adult lacewing



Dysdera woodlouse hunter



Cicada killer wasp

Snake vs. Snail



Photo by Soni Cochran

Garter snakes are welcome in our yard but only if they stay out of the backyard fish pond. Unfortunately, the snakes don't understand the fish in the pond aren't for them to eat.

Besides goldfish in the little pond, we add some of our large snails from the indoor aquarium. These fascinating snails (sold as "mystery snails") are about the size of a large plum — maybe three inches in diameter. They are not native snails and will die if the water is too cold, so we wait until mid-May to add the snails to the pond.

Just recently, we had quite a surprise. We walked by the pond and saw a large garter snake writhing in the water. That wasn't the surprise — we were used to big snakes in the pond. What was a surprise was what we found clamped on the snake's head when we grabbed it and pulled it out of the water!

The snake made the mistake of going after one of the large snails. We're not sure if it tried to attack the snail or if it accidentally bumped into the snail. Either way, the snail's operculum clamped down on the snake's head. An operculum (meaning "little lid" in Latin) is a hard plate attached to the snail's foot. The snail's operculum is used to help protect it from predators or from drying out during a drought. You can see it in the photo — it is the dark brown plate under the snail.

We tried to rescue the snake from the death grip of the snail but couldn't do it without hurting the snail too. The two-foot snake met an untimely end at the hands (or rather, foot) of an unlikely foe. An example of unusual and unintended biological control.

—By Soni Cochran, Extension Associate